

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:

an engine controller for controlling an image forming mechanism for forming an image on a sheet based on image data;

a printer controller for forming image data from printing data transferred from an external apparatus, for transmitting the image data to said engine controller, and for transmitting a command for setting an operation of said engine controller to said engine controller; and

a reader controller for controlling an original-reading device for outputting image data by reading an image of an original, and for transmitting the image data output from the original-reading device to said engine controller,

wherein said reader controller is provided between said printer controller and said engine controller so as to be communicatable with each of said printer controller and said engine controller, and controls the acquisition of a right to use said engine controller with said printer controller.

2. An apparatus according to Claim 1, wherein said reader controller comprises first communication means for performing communication with said printer controller, and second communication means for performing communication with

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said engine controller,

wherein said reader controller receives the image data and the command transmitted from said printer controller via said first communication means, and transmits the received image data and command to said engine controller via said second communication means.

3. An apparatus according to Claim 2, wherein said reader controller receives a timing signal indicating a start of transmission of image data from said engine controller via said second communication means, and transmits the received timing signal to said printer controller via said first communication means.

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4. An apparatus according to Claim 3, wherein said reader controller controls a start of reading of the image of the original by the original-reading device based on the timing signal received via said second communication means.

5. An apparatus according to Claim 2, wherein, when said reader controller has received a state signal indicating that there is a change in a state of said engine controller from said engine controller via said second communication means, said reader controller transmits the state signal to said printer controller via said first communica-

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tion means in accordance with the contents of the change in the state.

6. An apparatus according to Claim 1, wherein, when the image data output from the original-reading device is transmitted to said engine controller, said reader controller refuses the transmission of the image data from said printer controller to said engine controller.

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7. An apparatus according to Claim 1, wherein, when there is a request to transmit the image data from the original-reading device to said engine controller while the image data from said printer controller is transmitted to said engine controller, said reader controller interrupts the transmission of the image data from said printer controller to said engine controller, and transmits the image data from the original-reading device to said engine controller.

8. A reader controller for controlling an original-reading device for outputting image data by reading an image of an original, said reader controller comprising:

reception means for receiving image data and a command for setting an operation from a printer controller for forming image data from printing data transferred from an exter-

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nal apparatus;

transmission means for transmitting image data and a command for setting an operation to an engine controller for controlling an image forming mechanism for forming an image on a sheet based on image data;

selection means for selecting one of the image data output from said original-reading device and the image data received from said printer controller as the image data to be transmitted from said transmission means; and

control means for controlling the acquisition of a right to use said engine controller with said printer controller.

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9. A reader controller according to Claim 8, further comprising first communication means for performing communication with said printer controller, and second communication means for performing communication with said engine controller,

wherein said reader controller receives the image data and the command transmitted from said printer controller via said first communication means, and transmits the received image data and command to said engine controller via said second communication means.

10. A reader controller according to Claim 9, wherein

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said reader controller receives a timing signal indicating a start of transmission of image data from said engine controller via said second communication means, and transmits the received timing signal to said printer controller via said first communication means.

11. A reader controller according to Claim 10, wherein said reader controller controls a start of reading of the image of the original by the original-reading device based on the timing signal received via said second communication means.

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12. A reader controller according to Claim 9, wherein, when said reader controller has received a state signal indicating that there is a change in a state of said engine controller from said engine controller via said second communication means, said reader controller transmits the state signal to said printer controller via said first communication means in accordance with the contents of the change in the state.

13. A reader controller according to Claim 8, wherein, when the image data output from the original-reading device is transmitted to said engine controller, said reader controller refuses the transmission of the image data from said

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printer controller to said engine controller.

14. A reader controller according to Claim 8, wherein, when there is a request to transmit the image data from the original-reading device to said engine controller while the image data from said printer controller is transmitted to said engine controller, said reader controller interrupts the transmission of the image data from said printer controller to said engine controller, and transmits the image data from the original-reading device to said engine controller.

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15. A method for controlling a reader controller for controlling an original-reading device for outputting image data by reading an image of an original, said method comprising the steps of:

receiving image data and a command for setting an operation from a printer controller for forming image data from printing data transferred from an external apparatus;

transmitting image data and a command for setting an operation to an engine controller for controlling an image forming mechanism for forming an image on a sheet based on image data;

selecting one of the image data output from the original-reading device and the image data received from the

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printer controller as the image data to be transmitted in said transmitting step; and

controlling the acquisition of a right to use the engine controller with the printer controller.

16. A method according to Claim 15, wherein said receiving step receives the image data and the command transmitted from the printer controller, and wherein said transmitting step transmits the received image data and command to the engine controller.

17. A method according to Claim 15, further comprising the steps of:

receiving a timing signal indicating a start of transmission of image data from the engine controller; and

transmitting the received timing signal to the printer controller.

18. A method according to Claim 17, further comprising the steps of:

controlling a start of reading of the image of the original by the original-reading device based on the timing signal received in said timing receiving step.

19. A method according to Claim 15, further comprising

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the steps of:

receiving a state signal indicating that there is a change in a state of the engine controller from the engine controller; and

transmitting the state signal to the printer controller in accordance with the contents of the change in the state.

20. A method according to Claim 15, wherein, when the image data output from the original-reading device is transmitted to the engine controller, said controlling step refuses the transmission of the image data from the printer controller to the engine controller.

21. A method according to Claim 15, wherein, when there is a request to transmit the image data from the original-reading device to the engine controller while the image data from the printer controller is transmitted to the engine controller, said controlling step interrupts the transmission of the image data from the printer controller to the engine controller, and transmits the image data from the original-reading device to the engine controller.

22. An image processing apparatus comprising:

an engine controller for controlling an image forming mechanism for forming an image on a sheet based on image

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data;

a printer controller for forming image data from printing data transferred from an external apparatus, for transmitting the image data to said engine controller, and for transmitting a command for setting an operation of said engine controller to said engine controller; and

a reader controller for controlling an original-reading device for outputting image data by reading an image of an original, and for transmitting the image data output from the original-reading device to said engine controller,

wherein said reader controller is provided between said printer controller and said engine controller so as to be communicatable with each of said printer controller and said engine controller, analyzes the command transmitted from said printer controller, and transmits a command to said engine controller in accordance with a result of the analysis.

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23. An apparatus according to Claim 22, wherein said reader controller comprises first communication means for performing communication with said printer controller, and second communication means for performing communication with said engine controller,

wherein said reader controller receives the image data and the command transmitted from said printer controller via said first communication means, and transmits the received

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image data and command to said engine controller via said second communication means.

24. An apparatus according to Claim 22, wherein, when said reader controller transmits the image data output from the original-reading device to said engine controller, if the command transmitted from said printer controller causes a change in a load, said reader controller delays the execution of the command.

25. An apparatus according to Claim 24, wherein said reader controller comprises holding means for holding the command transmitted from said printer controller, and executes the command held in said holding means after transmitting the image data output from the original-reading device to said engine controller.

26. An apparatus according to Claim 22, wherein, when said reader controller transmits the image data output from the original-reading device to said engine controller, if the command transmitted from said printer controller requests a status, said reader controller executes the command.

27. A reader controller for controlling an original-

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reading device for outputting image data by reading an image of an original, said reader controller comprising:

reception means for receiving image data and a command for setting an operation from a printer controller for forming image data from printing data transferred from an external apparatus;

transmission means for transmitting image data and a command for setting an operation to an engine controller for controlling an image forming mechanism for forming an image on a sheet based on image data;

selection means for selecting one of the image data output from the original-reading device and the image data received from said printer controller as the image data to be transmitted from said transmission means; and

generation means for analyzing the command transmitted from said printer controller and for generating a command to be transmitted to said engine controller in accordance with a result of the analysis.

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28. A reader controller according to Claim 27, further comprising first communication means for performing communication with said printer controller, and second communication means for performing communication with said engine controller,

wherein said reader controller receives the image data

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and the command transmitted from said printer controller via said first communication means, and transmits the received image data and command to said engine controller via said second communication means.

29. A reader controller according to Claim 27, wherein, when said reader controller transmits the image data output from the original-reading device to said engine controller, if the command transmitted from said printer controller causes a change in a load, said reader controller delays the execution of the command.

30. A reader controller according to Claim 29, further comprising holding means for holding the command transmitted from said printer controller, wherein said reader controller executes the command held in said holding means after transmitting the image data output from the original-reading device to said engine controller.

31. A reader controller according to Claim 27, wherein, when said reader controller transmits the image data output from the original-reading device to said engine controller, if the command transmitted from said printer controller requests a status, said reader controller executes the command.

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32. A method for controlling a reader controller for controlling an original-reading device for outputting image data by reading an image of an original, said method comprising the steps of:

receiving image data and a command for setting an operation from a printer controller for forming image data from printing data transferred from an external apparatus;

transmitting image data and a command for setting an operation to an engine controller for controlling an image forming mechanism for forming an image on a sheet based on image data;

selecting one of the image data output from the original-reading device and the image data received from the printer controller as the image data to be transmitted in said transmitting step; and

analyzing the command transmitted from the printer controller and generating a command to be transmitted to the engine controller in accordance with a result of the analysis.

33. A method according to Claim 32, wherein said receiving step receives the image data and the command transmitted from the printer controller, and wherein said transmitting step transmits the received image data and com-

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mand to the engine controller.

34. A method according to Claim 32, wherein, when the image data output from the original-reading device is transmitted to the engine controller, if the command transmitted from the printer controller causes a change in a load, said generating step delays the execution of the command.

35. A method according to Claim 34, further comprising the step of holding the command transmitted from the printer controller, wherein said generating step executes the held command after transmitting the image data output from the original-reading device to the engine controller.

36. A method according to Claim 32, wherein, when the image data output from the original-reading device is transmitted to the engine controller, if the command transmitted from the printer controller requests a status, said generating step executes the command.

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